

CAE Research Project Meeting Minutes

10-7-2022

- Participants
 - Dr. Waleed Farag (PI)
 - Dr. Xin-Wen Wu
 - Dr. Soundararajan Ezekiel
 - Dr. Jino Ramson
 - Drew Rado
 - Emily Himes
 - Maria Balega
 - Meghan Schlipp
 - Nathan Metzger
 - Sky Semone
 - Zach Keyser
 - Zaryn Good
- Meeting started at 6:00 pm
- Unanimously approved minutes for meeting on September 30th, 2022

Main Points:

- Progress report
 - Maria and Zayrn: looked at data that Drew sent.
 - Drew and Meghan started using Wireshark to get the IoT23 datafields
 - Drew showed the sample sensor data
 - Also showed the wireshark data
 - Sky tried getting network data on the Arduino, but it was short of what Wireshark was capable of
 - Instead worked to get sensors working with TB
 - Zach, Hector worked on TinkerCAD
 - Zach defined sensors and retrieved data, but had issues saving data.

Discussion points

- Dr. Ramson mentioned using additional algorithms for packaging the data if the data is bad.
 - If we are primarily focused on using the network and packet data, maybe ignore this.
 - Focus on data collection, get 2-3 weeks of data
 - Make sure all sensors are collecting accurate data
 - Sky verified that sensors have been getting reasonable, but we need to make sure it stays this way, since our sensors have not been tested for long periods of time.
- Dr. Ezekiel wanted to make sure that TinkerCAD models correlate to the ones that we have configured now
 - Maybe use infrared sensors for in-home use/ expand TinkerCAD with this as well
 - Make smoke, gas, pressure, etc “at-home” sensors
 - If we cannot find a way of saving data, we should not continue with TinkerCAD
- Dr. Farag asked if there are any other sensors to consider for an in-home IoT ensemble/smart building.
 - Dr. Wu mentioned that this should be enough sensors to capture the network data but adding more sensors would give us more raw data.
 - Dr. Ramson said this was a small testbed, but it should work for now

- Maybe verify the sensor values, look for tools to do this
- Tasks:
 - Maria and Zaryn
 - Once data comes in, verify it, preprocess it if it will work, and start applying algorithms
 - Show Meghan relevant scripts on Titan, and how the machine learning things work
 - Drew, Nate, Sky, Emily, Meghan
 - Determine the capabilities of Wireshark in collecting network data needed to recreate datasets used in part one of the study.
 - Format the Wireshark data exactly like IoT data
 - Drew
 - Order sensor calibration materials and a USB hub
 - Nate
 - Set up SSH on titan and other ubuntu computer
 - Meghan, Hector, Zach
 - See if you can get TinkerCAD to save data
 - .

Adjournment at 7:00

Next meeting will be held on Friday, October 14th at 6:00 pm